WHAT IS CLAIMED IS:

1. A wireless communication system comprising:

a transmitter including an orthogonal encoder for converting serially input binary signals to parallel binary signals and orthogonally encoding the parallel binary signals, a first multiplier for multiplying the orthogonally encoded binary signals by an intrinsic spreading code to spread the orthogonally encoded binary signals, and an OFDM (Orthogonal Frequency Division Multiplexing) modulator for OFDM-modulating the spread signals; and

a receiver including an OFDM demodulator for demodulating the OFDM-modulated signals, and a maximum likelihood detector for performing a maximum likelihood detection of the demodulated spread signals,

the maximum likelihood detector grouping the OFDM-demodulated signals into a predetermined number of blocks to perform the maximum likelihood detection, and using the grouped maximum likelihood detection values to perform a whole maximum likelihood detection.

2. The wireless communication system as claimed in claim 1, wherein the transmitter further includes:

a first serial-to-parallel converter for serial-to-parallel converting the signals spread with the intrinsic spreading code; and

an interleaver for interleaving the serial-to-parallel converted signals and sending the interleaved signals to the OFDM modulator,

the receiver further including:

a deinterleaver for deinterleaving the OFDM-demodulated signals; and

a first parallel-to-serial converter for parallel-to-serial converting the deinterleaved signals and sending the parallel-to-serial converted signals to the maximum likelihood detector.

3. The wireless communication system as claimed in claim 1, wherein the maximum likelihood detector comprises:

a second multiplier for multiplying the OFDM-demodulated signals by the intrinsic spreading code;

a grouping section for grouping the multiplied signals into blocks;

a grouping maximum approximation detector for performing a maximum likelihood detection of the grouped blocks;

an integrated maximum approximation detector for performing a whole maximum likelihood detection based on the grouped maximum approximation values;

an orthogonal despreader for orthogonally despreading a sequence having a maximum approximation value to output parallel signals; and

a second parallel-to-serial converter for converting the parallel output signals to serial signals.

4. The wireless communication system as claimed in claim 3, wherein the grouping section groups an interval length of the intrinsic spreading code into blocks having a bit interval length of the orthogonal code.

5. A wireless communication method comprising:

(a) orthogonally encoding serially input binary signals;

(b) multiplying the orthogonally encoded binary signals by an intrinsic spreading code to spread the orthogonally encoded binary signals;

(c) OFDM-modulating the spread signals;

(d) OFDM-demodulating the OFDM-modulated signals:

(e) grouping the demodulated signals into a predetermined number of blocks to perform a maximum likelihood detection; and

(f) using the grouped maximum likelihood detection values to perform a whole grouping maximum likelihood detection.

6. The wireless communication method as claimed in claim 5, further comprising:

after (b),

serial-to-parallel converting the signals spread with the intrinsic spreading code, and interleaving the serial-to-parallel converted signals; and

after (d),

deinterleaving the OFDM-demodulated signals; and parallel-to-serial converting the deinterleaved signals and sending the parallel-to-serial converted signals to a maximum likelihood detector.

7. The wireless communication method as claimed in claim 5, wherein (e) further comprises

multiplying the OFDM-demodulated signals by the intrinsic spreading code,

grouping the multiplied signals into blocks and

performing a maximum likelihood detection of the grouped blocks; and

(f) further comprises

integrating the grouped maximum approximation values to perform a whole maximum likelihood detection,

orthogonally despreading sequences having a maximum approximation value and outputting the orthogonally despread sequences in parallel, and

converting the parallel output signals to serial signals.

8. The wireless communication method as claimed in claim 8, wherein the grouping comprises grouping an interval length of the intrinsic spreading code into blocks having a bit interval length of the orthogonal code.